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S/N 09/993,333

OCT 21 2002



PATENT

9/R.T.

10/28

FORMAL

DRAWINGS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Larry Wayne Oberley et al.

Examiner: James Schultz

Serial No.: 09/993,333

Group Art Unit: 1635

Filed: November 14, 2001

Docket: 875.042US1

Title: REDUCTION OF ANTIOXIDANT ENZYME LEVELS IN TUMOR CELLS
USING ANTISENSE OLIGONUCLEOTIDES

COMMUNICATION RE: SUBMISSION OF FORMAL DRAWINGS

Attn: OFFICIAL DRAFTSMAN

Commissioner for Patents

Washington, D.C. 20231

In response to the requirement for formal drawings made in the Office Action mailed June 18, 2002, enclosed is 1 sheet of formal drawings for the above-identified application.

The Examiner is invited to contact Applicant's Representatives, at the below-listed telephone number, if any further changes need to be made to the enclosed drawings.

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Respectfully submitted,

OCT 24 2002

LARRY WAYNE OBERLEY ET AL.

TECH CENTER 1600/2900

By his Representatives,

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Date 11 October 2002

By A.S. Viksnins

Ann S. Viksnins
Reg. No. 37,748

CERTIFICATE UNDER 37 C.F.R. § 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 11 day of OCT., 2002.

Candis B. Buending

Name

Signature

Candis B. Buending

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ANTISENSE OLIGONUCLEOTIDES
INVENTORS NAME: Larry Wayne Oberley et al.
DOCKET NO.: 875.042US1

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TECH CENTER 1600/2900

	oligo 3	oligo 1	oligo 2
1	V C G T S R Q L A P	M L S R H	-20
2	Val Cys Gly Thr Ser Arg Gln Leu Ala Pro	Met Leu Ser Arg Ala	
3	GTG TGC GGC ACC AGC CAG CTG GCT CGG	Leu Gly Tyr Leu Gly Ser Arg	
4	10 Q K H S L P D L P Y D Y G A L E P H	Leu Gly TAT CTG GGG TAC GCT GAA CCT CAC	
5	Gln Lys His Ser Leu Pro Asp Leu Pro Tyr Asp	10 Tyr Gly Ala Leu Glu Pro His	
6	CAG AAC CAC AGC CTC CCC GAC CTG CCC TAC GAC TAC	30	
7	20 I N A Q I M Q L H H S K H H A A Y V	ATC AAC GCG CAG ATC ATG CAG GCTG CAC CAC AGC AAG CACCAC GCG GCC TAC GTG	
8	Ile Asn Ala Gln Ile Met Gln Leu His His Ser Lys	40	
9	ATC AAC GCG CAG ATC ATG CAG GCTG CAC CAC AGC AAG TAC CAG GAG AAG	50	
10	N N L N V T E E K Y Q E A L A K G D		
11	Asn Asn Leu Asn Val Thr Glu Glu Lys Tyr Glu Ala Leu Ala Lys Gly Asp	60	
12	AAC AAC CCTG AAC GTC ACC GAG GAG AAG	70	
13	V T A Q A L Q P A L K F N G G H		
14	Val Thr Ala Gln Ala Leu Gln Pro Ala Leu Lys Phe Asn Gly Gly Gly His	80	SEQ ID NO:11
15	GTT ACA GCC CAG	90	SEQ ID NO:12

FIG. 1

TECH CENTER 1600/2900

TITLE: REDUCTION OF ANTIOXIDANT ENZYME LEVELS IN TUMOR CELLS USING

ANTISENSE OLIGONUCLEOTIDE

INVENTORS NAME: Larry Wayne Oberley et al.

DOCKET NO.: 875.042US1

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TECH CENTER 1600/2900

	Oligo 1			Oligo 2			Oligo 3		
1	C	G	T	S	R	Q	L	A	P
2	Val	Cys	Gly	Thr	Ser	Arg	Gln	Leu	Ala
3	GTC	TGC	GGC	CCC	ACC	AAC	AGC	AGG	CCC
4	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
5	V	C	T	S	R	Q	L	A	P
6	Val	Asn	Asp	Asn	Asp	Asn	Pro	Pro	Asp
7	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
8	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
9	V	C	T	S	R	Q	L	A	P
10	Val	Cys	Gly	Thr	Ser	Arg	Gln	Leu	Ala
11	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
12	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
13	V	C	T	S	R	Q	L	A	P
14	Val	Asn	Asp	Asn	Asp	Asn	Pro	Leu	Ala
15	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
16	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
17	V	C	T	S	R	Q	L	A	P
18	Val	Asn	Asp	Asn	Asp	Asn	Pro	Leu	Ala
19	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
20	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
21	N	A	Q	I	M	Q	L	H	S
22	Asn	Asn	Asp	Gln	Asn	Gln	Leu	His	Ser
23	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
24	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
25	N	N	L	N	V	T	E	K	Y
26	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
27	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
28	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
29	V	T	A	Q	I	M	Q	P	A
30	Val	Tyr	Ala	Gln	Asn	Asn	Pro	Leu	Leu
31	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
32	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
33	N	N	L	N	V	T	E	K	Y
34	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
35	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
36	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
37	N	N	L	N	V	T	E	K	Y
38	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
39	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
40	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
41	N	N	L	N	V	T	E	K	Y
42	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
43	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
44	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
45	N	N	L	N	V	T	E	K	Y
46	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
47	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
48	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
49	N	N	L	N	V	T	E	K	Y
50	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
51	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
52	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
53	N	N	L	N	V	T	E	K	Y
54	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
55	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
56	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
57	N	N	L	N	V	T	E	K	Y
58	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
59	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
60	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
61	N	N	L	N	V	T	E	K	Y
62	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
63	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
64	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
65	N	N	L	N	V	T	E	K	Y
66	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
67	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
68	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
69	N	N	L	N	V	T	E	K	Y
70	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
71	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
72	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
73	N	N	L	N	V	T	E	K	Y
74	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
75	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
76	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
77	N	N	L	N	V	T	E	K	Y
78	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
79	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
80	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
81	N	N	L	N	V	T	E	K	Y
82	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
83	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
84	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
85	N	N	L	N	V	T	E	K	Y
86	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
87	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
88	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
89	N	N	L	N	V	T	E	K	Y
90	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
91	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
92	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
93	N	N	L	N	V	T	E	K	Y
94	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
95	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
96	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
97	N	N	L	N	V	T	E	K	Y
98	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
99	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
100	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
101	N	N	L	N	V	T	E	K	Y
102	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
103	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
104	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
105	N	N	L	N	V	T	E	K	Y
106	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
107	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
108	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
109	N	N	L	N	V	T	E	K	Y
110	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
111	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
112	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
113	N	N	L	N	V	T	E	K	Y
114	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
115	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
116	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
117	N	N	L	N	V	T	E	K	Y
118	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
119	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
120	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
121	N	N	L	N	V	T	E	K	Y
122	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
123	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
124	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
125	N	N	L	N	V	T	E	K	Y
126	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
127	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
128	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
129	N	N	L	N	V	T	E	K	Y
130	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
131	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
132	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
133	N	N	L	N	V	T	E	K	Y
134	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
135	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
136	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
137	N	N	L	N	V	T	E	K	Y
138	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
139	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
140	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
141	N	N	L	N	V	T	E	K	Y
142	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
143	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
144	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
145	N	N	L	N	V	T	E	K	Y
146	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
147	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
148	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
149	N	N	L	N	V	T	E	K	Y
150	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
151	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
152	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC
153	N	N	L	N	V	T	E	K	Y
154	Asn	Asn	Asn	Asn	Val	Thr	Glu	Glu	Lys
155	GTC	TGC	GGC	CCC	ACC	AAC	CTG	CTG	CCC
156	GCAGATCCGC	GGCATCAGCG	GTAGCACCA	GA	CACTAGCAGC	AAG	TTC	AGC	GGC